

REMARKS

At the time that the third non-final Office Action was mailed, claims 1, 3, 5-9, 11, 12, 14-20, 22-26, 28-29 and 31-39 were present in the application. Of those claims, claims 1 and 20 were independent claims.

In that Office Action all of the claims were rejected as follows:

1. Claims 14-17, 32-33 and 38-39 were rejected as indefinite under 35 U.S.C. §112, second paragraph;
2. Claims 1, 3, 5-9, 11-12, 14-26*, 28-29 and 31-39 were rejected as obvious under 35 U.S.C. §103(a) over the DEYOE et al. publication, in view of HENDERSON et al. (4,560,561) and further in view of more MOORE, Jr. (5,928,403); and
3. Claims 1, 3, 5-9, 11-12, 14-26*, 28-29 and 31-39 were rejected as obvious under 35 U.S.C. §103(a) over the BOUSHY et al. publication, the COLEMAN et al. publication, or the ELDRED et al. publication in view of HENDERSON et al. and further in view of MOORE Jr.

Each of the four above noted publications were previously cited by applicants in Information Disclosure Statements.

Applicants wish to thank Examiner Chhaya D. Sayala for the courteous and productive interview with applicants' undersigned counsel at the Patent and Trademark Office on July 13, 2005.

As discussed during the interview, the present invention is directed to the discovery that a balanced feed composition for poultry may be supplemented with a citrus feed supplement comprising particles of a substantially untreated citrus byproduct of dried citrus peel or pulp from citrus operations which generate citrus peel or pulp byproduct or waste during citrus juice extraction, and in an amount of not more than 1.5 weight percent based on the total weight of the poultry feed diet composition as supplemented. Significantly, applicants have discovered that at weight percentages of 1.6 or greater there is a detrimental effect on the diet composition in attributes, such as adjusted feed conversion and average bird weight as shown in FIG. 2, feed conversion as

* Claim 21 had previously been cancelled.

shown in FIG. 3, total mortality as shown in FIG. 4 and body weight and body weight gain as shown in FIG. 8. Moreover, undesirable fat on the poultry begins to rise at 0.8 weight percent as shown in FIG. 7. However, at supplementation levels of not greater than 1.5 weight percent beneficial results for each of these attributes were observed. Indeed at levels of citrus feed supplement not greater than 1.5 weight percent, the benefits exceeded those obtained when simply feeding the poultry with the control balanced feed composition without the citrus feed supplement. Thus, the present invention not only has the benefit of finding a useful purpose for what otherwise would be waste that would necessitate costly disposal, but that such waste without the need for treatment may be employed while at the same time achieving beneficial results.

During the interview the Examiner suggested that claims 1 and 20 be amended as set forth herein to specifically call for the “particles of a substantially untreated citrus byproduct of dried citrus peel or pulp from citrus operations which generate citrus peel or pulp byproduct or waste during citrus juice extraction” in place of the Markush group which was previously set forth in the claims. Accordingly, claims 1 and 20 have been so amended. As so amended, the claim language finds clear support basis in Paragraphs 11, 42, 52 and 60 of the specification. Also as so amended, the Examiner indicated at the close of the interview that she believed that the claims should be allowable over the prior art.

DEYOE et al. discloses a feed supplement which comprises citrus bioflavonoids at levels of ½ percent, 1 percent, 1½ percent, 2½ percent and 5 percent. DEYOE et al. discloses that levels of bioflavonoids at 1, 1½, 2½ weight percent are acceptable, but that higher levels are detrimental. DEYOE et al. however, fails to disclose or suggest a feed supplement which comprises dried citrus peel or pulp byproduct or waste which results from a citrus juice extraction and which is untreated as set forth in the claims as amended herein. Indeed, the feed supplement in DEYEO et al. is only a single purified component which has probably been extracted from such waste, and is not the untreated waste itself as set forth in claims 1 and 20. If the bioflavonoid weight percentages of DEYEO et al. are to be supplied by providing untreated citrus peel and pulp as in the present claimed invention, it would be necessary to provide weight percentages of peel and pulp greatly in excess of the “not greater than 1.5 weight percent” as set forth in the claims. As set forth

in applicants' amendment mailed July 15, 2004, in order to achieve even the minimum 0.5 weight percent bioflavonoids as disclosed by DEYOE et al., the following levels of citrus peel would be needed: navel orange – 12.8 weight percent; Valencia orange – 19.2 weight percent; grapefruit – 20+ weight percent; tangerine – 79 weight percent; and lemon – 38 weight percent.

BOUSHY et al. discloses the feeding of citrus pulp to poultry at levels of 2.5 – 12.5 weight percent, and 7.5 weight percent is preferred. These percentages are significantly greater than the “not more than 1.5 weight percent” of the present claimed invention.

COLEMAN et al. at most suggests that some other publication cited on page 272 as “Damron” found that 7.5 weight percent or less citrus sludge was acceptable when fed to poultry. COLEMAN et al. did not actually conduct any tests with poultry. Instead, COLEMAN et al. simply analyzed the levels of amino acids and proteins in aerobic and anaerobic citrus sludge and confirmed that those levels might be in an acceptable range. However, COLEMAN et al. contains no disclosure or suggestion that citrus sludge “of not more than 1.5 weight percent” might be employed, and aerobic and anaerobic citrus sludge is “not substantially untreated citrus byproduct of dried citrus peel or pulp from citrus operations which generates citrus peel or pulp byproduct or waste during citrus juice extraction” as set forth in the claims. Aerobic and anaerobic citrus sludge results from the decomposition of such peel or pulp and is therefore a treated material and quite different than the undecomposed untreated waste as in the present claimed invention.

The ELDRED et al. publication is probably the same “Damron” article referred to in COLEMAN et al. ELDRED et al. discloses the addition of 2.5-20 weight percent again of citrus sludge to poultry feed and concluded that 5-10 weight percent was acceptable. ELDRED et al. contains no disclosure of the “not more than 1.5 weight percent” set forth in the present claims, and like COLEMAN et al., the supplement is citrus sludge and not the untreated citrus byproduct of peel or pulp as in the present claimed invention.

And neither of the secondary references overcomes the critical failures of the four last discussed publications.

HENDERSON et al. simply discloses the use of citrus molasses from sugar refining processes in pellet form for improving poultry eggshells as opposed to the poultry meat product to which the supplements of the present invention are directed. Thus, HENDERSON et al. neither discloses nor suggests the use of citrus peel or pulp as a supplement as in the present invention nor is HENDERSON et al. directed to the solution of the same problem as in the present invention.

MOORE, Jr. isn't even directed to a feed supplement as in the present invention. MOORE, Jr. simply treats poultry manure with alum to inhibit ammonia which has an adverse affect on poultry.

Accordingly, even when all of the prior art which has been relied upon to reject the claims has been combined, a citrus feed supplement still does not result which is comprised of "particles of a substantially untreated citrus byproduct of dried citrus peel or pulp from citrus operations which generate citrus peel or pulp byproduct or waste during citrus juice extraction" as set forth in all of the claims. Nor does such citrus byproduct result which is present "at a concentration of not more than 1.5 weight percent, based on the total weight of the poultry feed diet composition" also as set forth in all of the claims.

As indicated earlier, it was the Examiner's belief that the claims as presently amended in the application should be allowable over the prior art.

It is also respectfully submitted that all of the claims presently in the application should be in full compliance with 35 U.S.C §112.

Claims 14-17 have been cancelled.

Claim 12 has been amended to set forth that the citrus byproduct of claim 1 is that which "includes a combination of components". This clearly finds support in paragraphs 48-51 of the specification.

As to the rejection of claims 32 and 33 under §112, the recitation of "hesperidin, limonin, glucoside and citrus pectin" does not need antecedent basis. Claims 32 and 33 simply set forth the further step of calculating an adjusted feed conversion value for the poultry raised according to the process of the invention, and that when that adjusted feed conversion value is calculated, it is less than that of poultry raised on a different feed, i.e. the "balanced feed composition when supplemented with hesperidin, limonin, glucoside

and citrus pectin". These comparisons find clear support in the work done in Example 3 and as shown in FIG. 8.

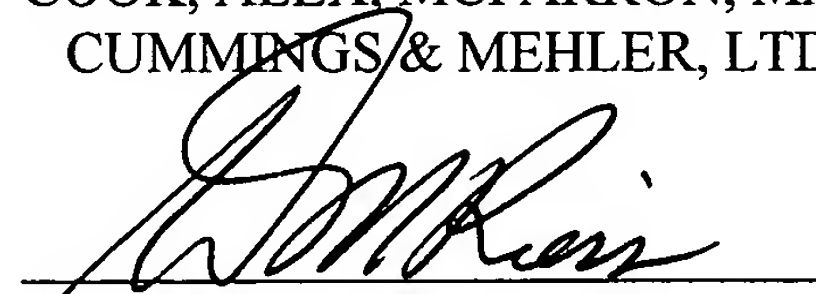
Claims 38 and 39 depend from claim 20 and specifically set forth that the substantially untreated citrus byproduct spelled out in claim 20 has not been subjected to specific treatment procedures of extraction or purification. This language finds clear support in paragraphs 43 and 50 in the specification.

Accordingly, it is requested that the rejection of the above claims as indefinite under §112 be withdrawn.

For the above reasons it is respectfully submitted that all of the claims now present in the application, claims 1, 3, 5-9, 11, 12, 18-20, 22-26, 28-29 and 31-39, are in condition for allowance. Accordingly, favorable reconsideration and allowance are requested.

Respectfully submitted,

COOK, ALEX, MCFARRON, MANZO,
CUMMINGS & MEHLER, LTD.



Daniel M. Riess
Registration No. 24,375

200 West Adams Street
Suite 2850
Chicago, Illinois 60606
(312) 236-8500
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Customer No. 000026568